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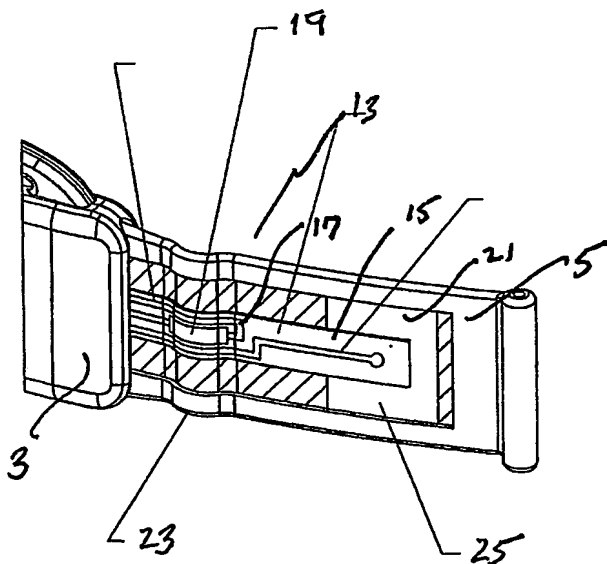
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- (71) Applicant (for all designated States except US): **GENERAL HOSPITAL CORPORATION** [US/US]; 55 Fruit Street, Boston, MA 02114 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **SIMS, Nathaniel** [US/US]; 65 Landsdown Street, Cambridge, MA 02139 (US). **WOLLOWITZ, Michael** [US/US]; 15 Elm Street, Chatham, NY 12037 (US). **HICKCOX, Matt** [US/US]; 234 Littleton Road, Unit 2D, Westford, MA 01886 (US). **COLQUITT, Nhedti** [US/US]; 7333 SW 184th Place, Aloha, OR 97007 (US). **DEMPSEY, Michael** [US/US]; 21 April Lane, Westford, MA 01886 (US).
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(54) Title: RESPIRATION MOTION DETECTION AND HEALTH STATE ASSESSMENT SYSTEM



(57) Abstract: A wearable platform embodied in a belt or flattened patch-like central body shaped to conform to the abdomen provides physiological monitoring of soldiers during field operations or trauma victims at accident sites and makes health state assessments. The platform includes sensors for heart rate, body motion, respiration rate and intensity, and temperature and further contains a microprocessor and short range transmitter. The respiration sensor uses conductive ink in a novel manner. A small square of the ink is coated on an arched structure so that flexing of the arch either to increase or decrease its radius of curvature modifies the resistance of the structure. This is utilized to set the unstressed resistance of the arch structure and to allow a greater range of resistance values capable of measuring distortions in different deformations of the arch. The respiration sensor supplements the motion information provided by an accelerometer sensor.

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